



CLEAN VERSION OF AMENDED SPECIFICATION PARAGRAPHS

HIGH PERFORMANCE CAPACITOR

Applicant: Larry Eugene Mosley

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Figure 5 is an illustration of a cross-sectional view of some embodiments of a system 500 including capacitor 503 coupled to substrate 506 and electrically coupled by vias 510 and controlled collapse chip connection 512 to die 515. Capacitor 503 is coupled to power supply connections on die 515 to decouple the power supply connections at the die. Capacitor 503 is protected from the environment by molding 518. In one embodiment, substrate 506 is formed from a low K dielectric and has a thickness 521 of between about .05 millimeters and about .1 millimeters. A dielectric thickness of between about .05 millimeter and .1 millimeter allows system 500 to be fabricated with shorter capacitor leads than the capacitor leads in system 400. As described above, a system having short leads between capacitor 503 and die 515 results in a capacitor having a low inductance and a low resistance, which improves the performance of the decoupling circuit.